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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/706,299 | 11/11/2003 | Assaf Govari | U 014946-4 | 5768 |

140 7590 04/05/2007
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EXAMINER

VRETTAKOS, PETER J

ART UNIT PAPER NUMBER

3739

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/05/2007 | PAPER |

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If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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DETAILED ACTION

The application is published application number: 2005/0101946.

The effective filing date of this application is 11-11-03.

The action is non-final. An RCE was filed 3-8-07.

Claims 18-25 and 28-30 are pending

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-25 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walsh (6,802,857) in view of Spillman, Jr. et al. (6,206,835).

Walsh is silent regarding a control circuit and physiological sensors.

Independent claim 18 (and 30) (parentheticals toward Walsh unless stated otherwise)

Walsh discloses a system for electrically isolating a cardiac chamber, comprising:
a resonant circuit (18, col. 4:14) having a resonant frequency, said resonant circuit being constructed and dimensional for introduction into an operative position in a pulmonary vein (anticipated by language toward a "vessel" in col.

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4:1-3; also note that this is intended use language) of a subject proximate an ostium of said pulmonary vein (intended use language);

a catheter (col. 1:44-48) adapted to carry said resonant circuit into said operative position in said pulmonary vein;

a stent (10) dimensioned for circumferential engagement with an inner wall of said pulmonary vein (intended use language; analogues disclosed: artery, passageway, see col. 4:1-3) to define a circumferential region (depicted in figure 8, element 46 is the vessel, the RF field is 36) of contact between said stent (10) and said pulmonary vein (intended use language), wherein a principal axis of said stent is substantially aligned coaxially (depicted in figure 8, element 46 is the vessel, the RF field is 36) with said pulmonary vein, said resonant circuit being incorporated in said stent (incorporation disclosed at least once, see col. 4:22-24); and

a generator (col. 5:65 through col. 6:6; col. 1:8-10) disposed external to said subject for generating an electromagnetic field that has a frequency substantially equal to said resonant frequency of said resonant circuit, said electromagnetic field operatively including said resonant circuit and causing said resonant circuit to re-radiate electromagnetic energy so as to ablate (col. 5:50-65) intramural target tissue in said pulmonary vein; and

a sensor system (68 **Spillman patent**) to position and orient (as determined by changes in blood pressure once the stent is in place as opposed to being mobile; also note that **Spillman** discloses that the sensor can detect other parameters, col. 7:47-48) said stent in said pulmonary vein (analogues passageways and arteries disclosed in Walsh col. 4:1-4) proximate the ostium (intended use).

Note: a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is **capable** of performing the intended use, then it meets the claim. (Also note that analogues to a pulmonary vein are disclosed: arteries and passageways in col. 4:1-3. This increases the likelihood that the Walsh structure is capable of use in the pulmonary vein as the Applicant claims.)

Dependent claims

22. The system according to claim 18, wherein said stent is constructed of an alloy having a shape memory (col. 4:4-6, "nitinol").

23. The system according to claim 18, wherein said stent is constructed of a biodegradable material (col. 4:4-6, "nitinol").

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*However, in an analogous device/method (see the stent 32 in figure 6a), **Spillman** discloses a sensor (68) for monitoring electrophysiologic cardiac properties (blood pressure, col. 7:32) of said subject for determining if a predefined end point has been reached.*

20. The combination of the two patents suggest predefined end point comprises confirmation of a block of electrical conductivity at said target tissue (intended use language). Also note that an abrupt change in sensed blood pressure (blood pressure, col. 7:32; sensed parameters related to impedance, resistance, capacitance – col. 7:26-34 and col. 7:45-55) in theory could **capably** provide confirmation of a conduction block.

21. The combination of the two patents suggest a plurality of capacitors (C1, C2 in figure 5a in Walsh) in said resonant circuit; and a **control circuit (60 in Spillman figure 3)** for automatically selecting one of said capacitors responsively to a frequency of said electromagnetic field to so as to conform said resonant frequency of said resonant circuit with said frequency of said electromagnetic field.

24. The system according to claim 18, further comprising: a localizing subsystem (60 Spillman) for tracking a position and orientation of said catheter (through sensing with 68, Spillman), comprising: a plurality of localizing field generators (65) disposed external to said subject; a position (68) sensor on said catheter that is responsive to localizing

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electromagnetic fields produced by said localizing field generators; and a receiver (65) responsive to an output of said position sensor.

The motivation to combine the patents is to monitor the condition of the implant/stent as allowed by the Spillman stent depicted in figure 6a and is found in Spillman col. 1:22-24.

Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to modify Walsh in view of Spillman by including feedback and position sensors. Again, the motivation to combine the patents is to monitor the condition of the implant/stent and is found in Spillman col. 1:22-24.

25. The system according to claim 18 wherein said stent (10) and said resonant circuit (18) form a body in the shape of a ring oriented in a plane extending radially of the axis of the pulmonary vein (intended use). This is depicted in Walsh figure 8. (46 is a vessel, which includes by definition the pulmonary vein.)

28. The system according to claim 25 wherein said stent is positioned in facing relative to the ostium of the pulmonary vein. *This is intended use language.*

29. The system according to claim 28 wherein the position of the stent relative to said

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ostium is such that the target tissue is ablated near said ostium to block electrical conductivity of said tissue and thereby counteract arrhythmia in the heart chamber. *This is intended use language.*

Response to Arguments

Applicant's arguments filed 3-8-07 have been fully considered but they are not persuasive.

Walsh discloses a stent 12 with conducting wire 20 forming an inductor 14. The stent has two capacitors 16 bookmarking the inductor 20. As such the wire 20 is **between** the capacitors 16. Amended claim 18 and new claim 30 currently disclose a stent having a capacitor core and an inductor coil wound **around** a capacitor. In response, the Office applies the following case law evincing obvious the differences between the Walsh and the claimed invention.

In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device.); *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice).

In light of the above case law, the Office contends it obvious (as a design choice) to place the Walsh wire **around** a capacitor which would read on the Applicant's claimed invention. Further, the rearrangement of parts (**between to around**) would not have modified the the operation of the Walsh stent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Vrettakos whose telephone number is 571-272-4775. The examiner can normally be reached on M-F 9-6.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Pete Vrettakos
March 30, 2007




ROY D. GIBSON
PRIMARY EXAMINER